



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/619,775	07/20/2000	Norman F. Krasner	02344.P037X	3595

23696 7590 08/15/2003

Qualcomm Incorporated
Patents Department
5775 Morehouse Drive
San Diego, CA 92121-1714

EXAMINER

CHOW, CHARLES CHIANG

ART UNIT	PAPER NUMBER
----------	--------------

2685

DATE MAILED: 08/15/2003

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/619,775

Applicant(s)

KRASNER, NORMAN F.

Examiner

Charles Chow

Art Unit

2685

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 6/13/2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-12 and 14-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-12 and 14-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

**Office Action for
Applicant's Amendment
(6/13/2003)**

1. Regarding applicant's amendment, it is acknowledged that claims 2, 13, 25-43 has been canceled.
2. Regarding applicant's amendment based upon the no teachings for the determining a change in received communication signal by communication receiver, for wireless signal from wireless cell cite, for determining of the mobile station's position, the ground of rejection has been changed to include Vaara (US 6,285,884).

Regarding the determining a change in received communication signal by communication receiver, for wireless signal from wireless cell cite, Vaara teaches the handover of mobile station based upon the measurement at mobile station of the signal transmitted from base station (abstract; col. 1, lines 6-15; col. 2, lines 10-18), and mobile station reports the measurement results to in a regular interval, for determining the speed of the mobile station, for the handoff determination (abstract, Fig. 1-5; col. 2, line 66 to col. 3, line 45; col. 3, line 61 to col. 4, line 2; col. 7, lines 1-20).

Vaara teaches the changes of the measured signal level result as a function of time, for determining the mobile station's speed, (figure in cover page, Fig. 5; col. 5, line 57 to col. 6, line 56), by measuring the signal transmitted from the base station, cell cite, for a change in received signal strength.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sheynblat et al. (US 6,313,786 B1) in view of Vaara (US 6,285,884 B1).

Regarding **claim 1**, Sheynblat discloses a method for determining a position of a mobile satellite positioning system (the method and apparatus for processing satellite positioning system SPS signals, title; the approximate location of the GPS receiver in abstract; the calculation of the location fix of the GPS receiver, abstract).

Sheynblat discloses the SPS receiver is coupled to communication receiver (the GPS receiver 20 comprises the modem 22 for communication with cellular remote base station using link 16, figure in cover page, col. 4, line 58 to col. 5, line 4; col. 5, lines 16-26).

Sheynblat discloses the determining a change in communication (comm.) signal received by said comm. receiver (the determining of the Doppler rate of change information in col. 5, line 41 to col. 6, line 6).

Sheynblat discloses the determining a parameter (Doppler information, above), based on said change (Doppler rate of change, above).

Art Unit: 2685

Sheynblat disclose the processing SPS signals in SPS receiver in a manner specified by said parameter (the processing of propagated SPS signal received by the GPS receiver, col. 3, lines 8-12; the SPS signals received by the SPS receiver at this location are processed in a manner specified by the signal environment data, col. 3, lines 13-20; the determining of how data representing SPS signals received by said SPS receiver which is processed based on said signal environment data, col. 28, lines 17-19).

Besides, Sheynblat discloses the creating of the environment data during the signal measurement (col. 23, line 53).

Regarding the amended portion for the determining a change in received communication signal by communication receiver, for wireless signal from wireless cell cite,

Vaara teaches the handover of mobile station based upon the measurement at mobile station of the signal transmitted from base station (abstract; col. 1, lines 6-15; col. 2, lines 10-18), and mobile station reports the measurement results to in a regular interval, for determining the speed of the mobile station, for the handoff determination (abstract, Fig. 1-5; col. 2, line 66 to col. 3, line 45; col. 3, line 61 to col. 4, line 2; col. 7, lines 1-20).

Vaara teaches the changes of the measured signal level result as a function of time, for determining the mobile station's speed, (figure in cover page, Fig. 5; col. 5, line 57 to col. 6, line 56), by measuring the signal transmitted from the base station, cell cite, for a change in received signal strength. Vaara teaches the technique for improving the accuracy of the handover of mobile station to the correct microcell, (as shown in col. 2, lines 42-64), such that the mobile station can be accurately handover to the correction microcell. Therefore, it

Art Unit: 2685

would have been obvious to one of ordinary skill in the art at the time of invention to modify Sheynblat, and to include Vaara's determining of the speed of mobile station by measuring of the received signal received from base station, such that the mobile station could handover to the correct microcell.

Regarding **claim 21**, the signal transmitted by comm. transceiver, referring to Sheynblat above for the GPS receiver coupled to the modem 22 for transmitting, receiving signal on comm. link 16 for the Doppler shift, position information and Pseudoranges

4. Claims 3, 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sheynblat in view of Abraham et al (US 5,510,797).

In the above, it does not clearly indicate the CDMA, TDMA.

Regarding **claim 3**, Abraham teaches the SPS timing signal sequence (15A-15D) for synchronization for CDMA user, TDMA users, cellular telephone CT user (figure in cover page, abstract, col. 6, lines 28-47). Abraham provides the distributed timing signal using SPS signal to CDMA, TDMA user for efficient synchronization to the system timing. It is apparently obvious, if not inherent, to include Abraham's SPS sequence of timing for timing synchronization, to Sheynblat, such that the user could efficiently correct their timing error (col. 5, lines 18-22) using the SPS signal. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify and include Abraham's SPS sequence of timing for timing synchronization, to Sheynblat, such that the user could efficiently correct their timing error using the SPS signal.

Art Unit: 2685

Regarding **claim 4**, referring to examiner's comment above, for the TDMA users communication link

5. Claims 5, 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sheynblat in view of Ando (EP 0,429,769 A2).

In the above, it does not clearly indicate the parameter is a motion information.

Regarding **claim 5**, Ando teaches the GPS satellite tracking method using the motion moving speed information of the vehicle to estimate the Doppler frequency shift for the first speed with associated Doppler shift ± 600 Hz and second speed for a ± 150 Hz, as shown in Ando's abstract, Fig. 4. Ando considers the varying frequency search range using the Doppler frequency shift to acquire satellite communication in a narrow-band search and in a wide band search (abstract; col. 1, line 51 to col. 2, line 7; col. 3, line 44 to col. 4, line 37). Ando provides the solution to track satellite signal based on the vehicle speed for search frequencies in different frequency bandwidth, as shown above. It is apparently obvious to include Ando's measuring the vehicle speed and Doppler shift for searching, tracking, the satellite signal, to Sheynblat, such that the satellite signal could be efficiently tracked as suggested by Ando. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify and include Ando's measuring the vehicle speed and Doppler shift for searching, tracking, the satellite signal, to Sheynblat, such that the satellite signal could be efficiently tracked.

Art Unit: 2685

Regarding the change in signal level, Sheynblat has shown above (col. 23, line 53) for creating of the environment data during the signal measurement.

Regarding **claim 6**, referring to examiner's comment in claim 5 above for the motion information determining of the search range to acquire, track, the SPS signal.

6. Claims 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sheynblat in view of Ando, and further in view of Pon (US 5,771,456).

In the above, it does not clearly indicate the first, second velocity, although Ando has shown above the search range is depend upon the vehicle speed, Doppler frequency shift.

Regarding **claim 7**, Pon teaches the suppression of the multipath interference using the mobile user's speed to determine the range, pseudorange, for the SPS location determining signal (abstract, figure in cover page; Fig. 1, Fig. 4; col. 2, lines 8-45). Pon considers the first and second velocity (abstract). It is apparently obvious, if not inherent, to include Pon's first, second velocity and determining of the pseudorange for location determining signal, to Sheynblat, by doing so, the system could provide accurate pseudorange information for the location determining signal to user. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify and include Pon's first, second velocity and the determining of the pseudorange for location determining signal, to Sheynblat as modified above, such that the system could provide accurate pseudorange information for the location determining signal to user.

Art Unit: 2685

Regarding **claim 8**, referring to examiner's comment in claims 5-7 above, for the first, second velocity, the first range is smaller in frequency than second range.

Regarding **claim 9**, referring to examiner's comment for Sheynblat above for the SPS receiver determines at least one pseudorange to at least one SPS satellite in view (the pseudorange is a measurement of the time of arrival of the SPS signal, col. 1, lines 37-40; The measurement of the time of arrival for creating of the environment data, col. 3, lines 24-26).

Regarding **claim 10**, referring to examiner's comment for Sheynblat above for the pseudorange for the multipath fading (col. 9, lines 1-12).

7. Claims 11-12, 14-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sheynblat in view of Wysocki et al. (US 5,381,338).

In the above, it does not clearly indicate the CSM.

Regarding **claim 11**, Wysocki teaches a satellite positioning system (SPS) receiver which receives and processes SPS signals for SPS satellites; a communication receiver which receives a communication signal; a communication signal measurement (CSM) unit coupled to said communication receiver and coupled to said SPS receiver (in abstract, Fig. 1, col. 1, line 13-17, in col. 10, line 66 to col. 11, line 4, it shows the positioning, navigation, and collision avoidance system for land vehicle). The system has the SPS receiver 1 and the transceiver 19. The system controller 2 has the interface 3 for interfacing to the SPS receiver, the interface 18 for interfacing to the transceiver 19. Therefore, it would have been obvious

Art Unit: 2685

to one of ordinary skill in the art at the time of invention to modify and include Wysocki's SPS receiver 1, transceiver 19, system controller, as the claimed communication signal measurement CSM, to Sheynblat, such that system controller could control the measurement of the changing parameters and process the SPS signals.

Regarding the CSM unit determining a change in said communication signal which specifies a manner for processing said SPS signals, refer to the patent disclosure discussion in claim 1 above.

Regarding **claim 12**, refer to the patent disclosure discussion in claims 1, 11, for which also provides the claimed features for the communication signal measurement and the determining of the specified parameter of the said manner, based on the change.

Regarding **claim 14**, refer to the to the patent disclosure discussion above in claims 3,4, which also provides the claimed features for this claim.

Regarding **claim 15**, refer to the to the patent disclosure discussion above in claim 5 which also provides the claimed features for this claim.

Regarding **claim 16**, refer to the to the patent disclosure discussion above in claim 6 which also provides the claimed features for this claim.

Regarding **claims 17, 18**, refer to the to the patent disclosure discussion above in claim 7, which also provides the claimed features for this claim.

Regarding **claim 19**, refer to the to the patent disclosure discussion above in claim 9 which also provides the claimed features for this claim.

Regarding **claim 20**, refer to the to the patent disclosure discussion above in claim 1 which also provides the claimed features for this claim.

8. Claims 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sheynblat in view of Wysocki, and further in view of Gilhousen (US 5,859,612).

In the above it does not clearly indicate the command and change in power level.

Regarding **claim 22**, Gilhousen teaches wherein said change is a change in a power level determined by monitoring power control commands received by the communication transceiver over a communication link (see in abstract, in Fig. 14, 16, in col. 1, line 8-15, it shows the method and apparatus of a rotating antenna beam for determining the position of a mobile subscriber station within the cellular telephone system). In col. 11, line 5-14, it shows the closed loop power control of the transmitting power of the mobile station. In col. 25, line 31-40, it shows the AGC power controlling. In col. 27, line 66 to col. 28, line 12, it shows the power control circuitry 438, and the power adjustment command controlling bits from cell-site. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify and include Gilhousen's determining mobile station's position and power controlling command for adjusting transmission power level, to Sheynblat as modified above, such that power level could be detected and adjusted for communication link.

Regarding **claims 23, 24**, refer to the to the patent disclosure discussion above in claims, 1, 22 which also provides the claimed features for the change is a power level determined by monitoring power control command provided to a transmitter at the communication receiver; and the power command received at the communication receiver.

***Response to Arguments
And
Conclusion***

9. Applicant's arguments with respect to claims 1, 3-12, 14-24 have been considered but are moot in view of the new ground(s) of rejection.

Regarding applicant's argument based upon the no teachings for the determining a change in received communication signal by communication receiver, for wireless signal from wireless cell cite, the ground of rejection has been changed to include Vaara (US 6,285,884).

Regarding the determining a change in received communication signal by communication receiver, for wireless signal from wireless cell cite, Vaara teaches the handover of mobile station based upon the measurement at mobile station of the signal transmitted from base station (abstract; col. 1, lines 6-15; col. 2, lines 10-18), and mobile station reports the measurement results to in a regular interval, for determining the speed of the mobile station, for the handoff determination (abstract, Fig. 1-5; col. 2, line 66 to col. 3, line 45; col. 3, line 61 to col. 4, line 2; col. 7, lines 1-20).

In view of the disclosures, claims 1, 3-12, 14-24 are remaining in the rejection manner.

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

Art Unit: 2685

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles Chow whose telephone number is (703)-306-5615.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban, can be reached at (703)-305-4385.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231


or faxed to: (703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Charles Chow

August 01, 2003.


EDWARD F. URBAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600